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**Buono**

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(54) **COLLAPSIBLE TABLE**

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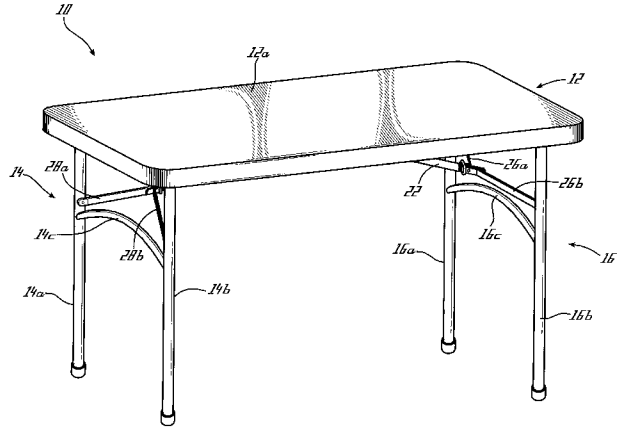
(57) **ABSTRACT**

A collapsible table has a table top, such as may be formed by blow molding, with a substantially planar top surface and a bottom surface opposite the top surface. Formed into the bottom surface of the table top are opposing first and second channels. Disposed within the first channel is a first pivot bar, and disposed within the second channel is a second pivot bar. The table includes opposing first and second frame members secured to the bottom surface of the table top. Disposed between and pivotally attached to the first and second frame members are opposing first and second leg assemblies which are movable between a use position and a storage position. To maintain the first leg assembly in the use position, the table has a first support assembly including a first brace structure and a first support bar. The first brace structure has a first central pivotal attachment point, and one or more first distal pivotal attachment points attached to the first leg assembly. The first support bar has a first end which is pivotally attached to the first pivot bar and a second end which pivotally attached to the first central pivotal attachment point of the first brace structure. To maintain the second leg assembly in the use position, the table has a second support assembly having a second brace structure and a second support bar. The second brace structure has a second central pivotal attachment point, and one or more second distal pivotal attachment points attached to the second leg assembly. The second support bar has a first end which is pivotally attached to the second pivot bar and a second end which pivotally attached to the second central pivotal attachment point of the first brace structure.

**25 Claims, 9 Drawing Sheets**



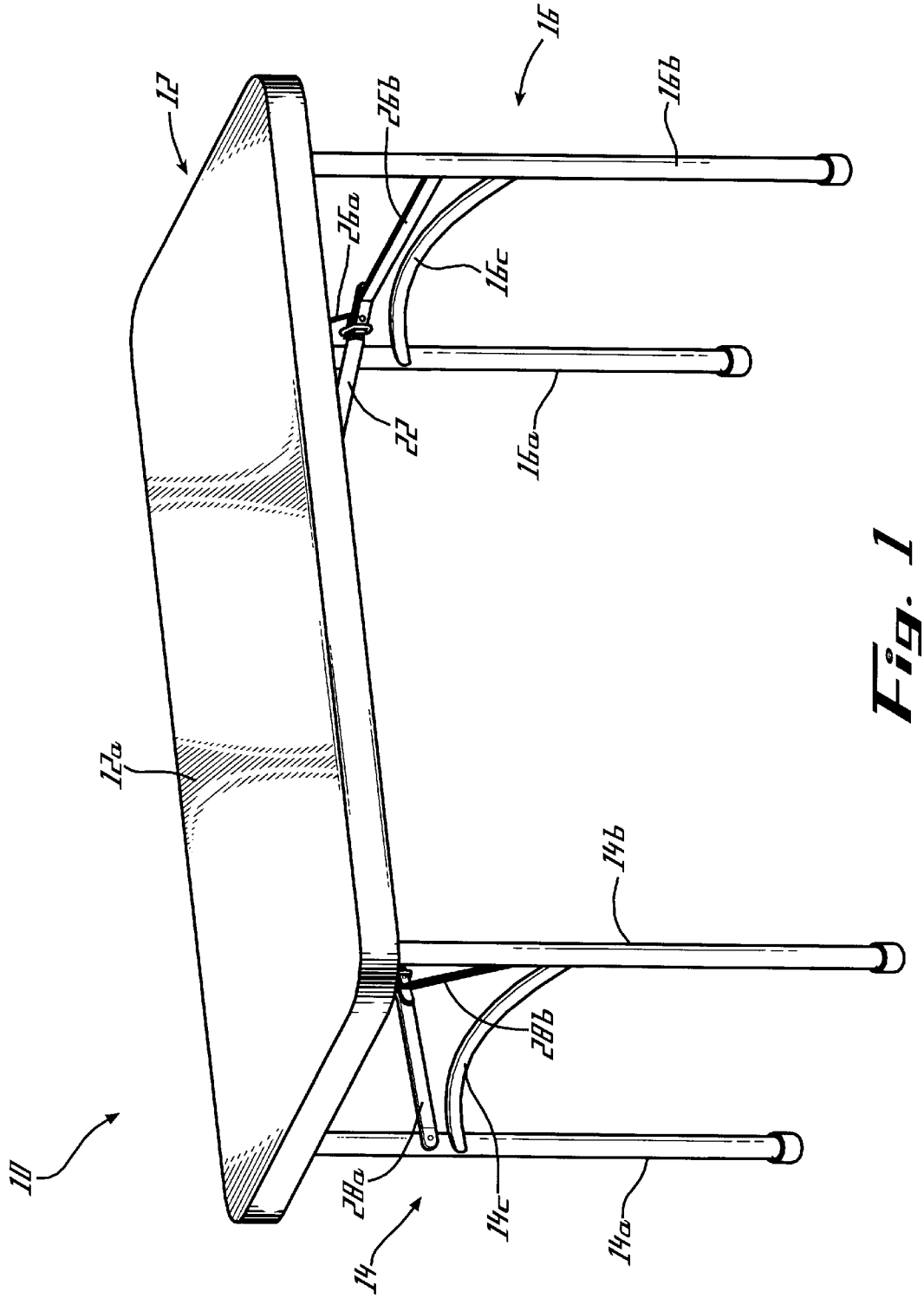
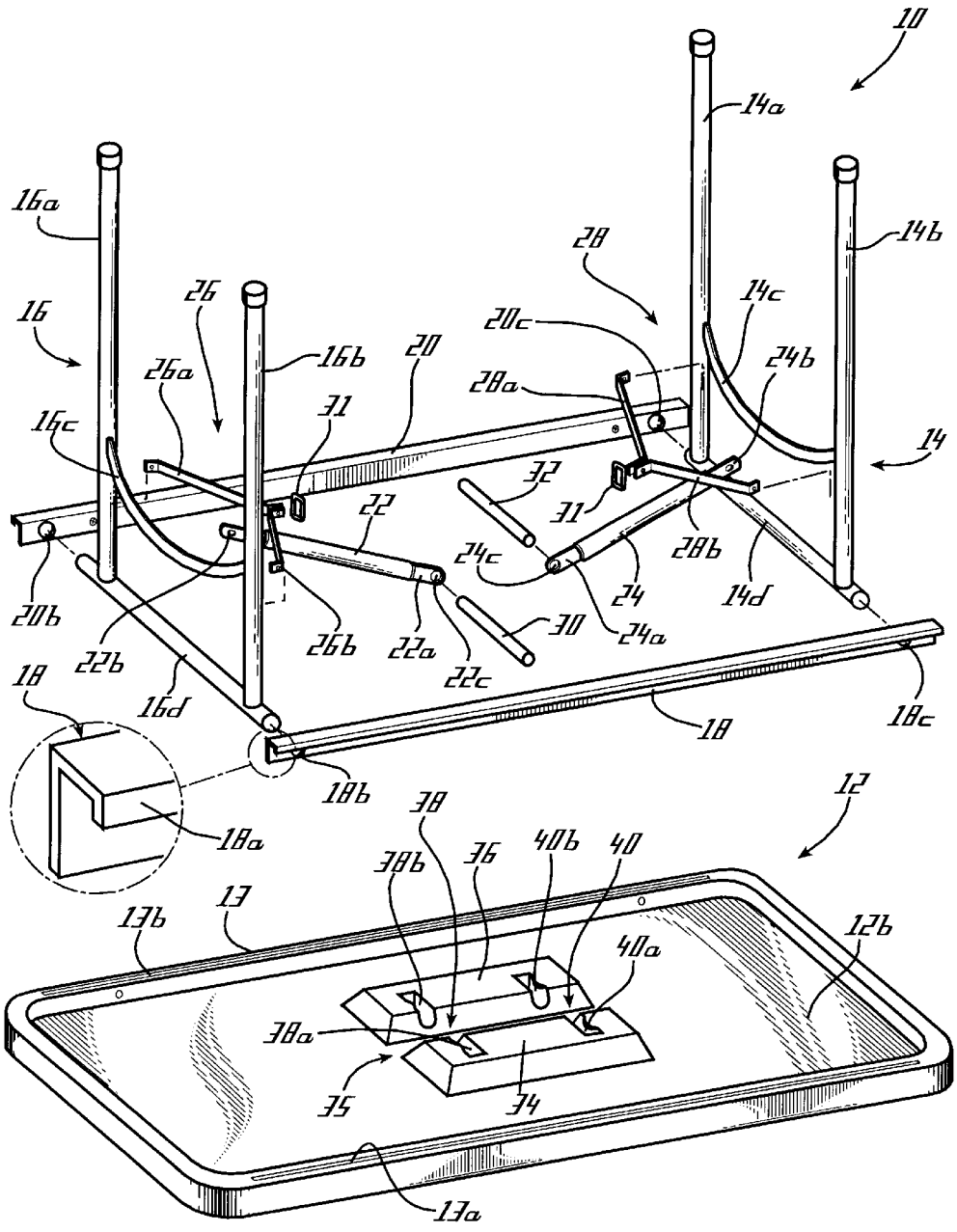



Fig. 1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24c
28b
24
14d
20b
22b
26b
22a
22c
30
24a
18
16d
18
18c
18b
12
38
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36
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12b
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38a
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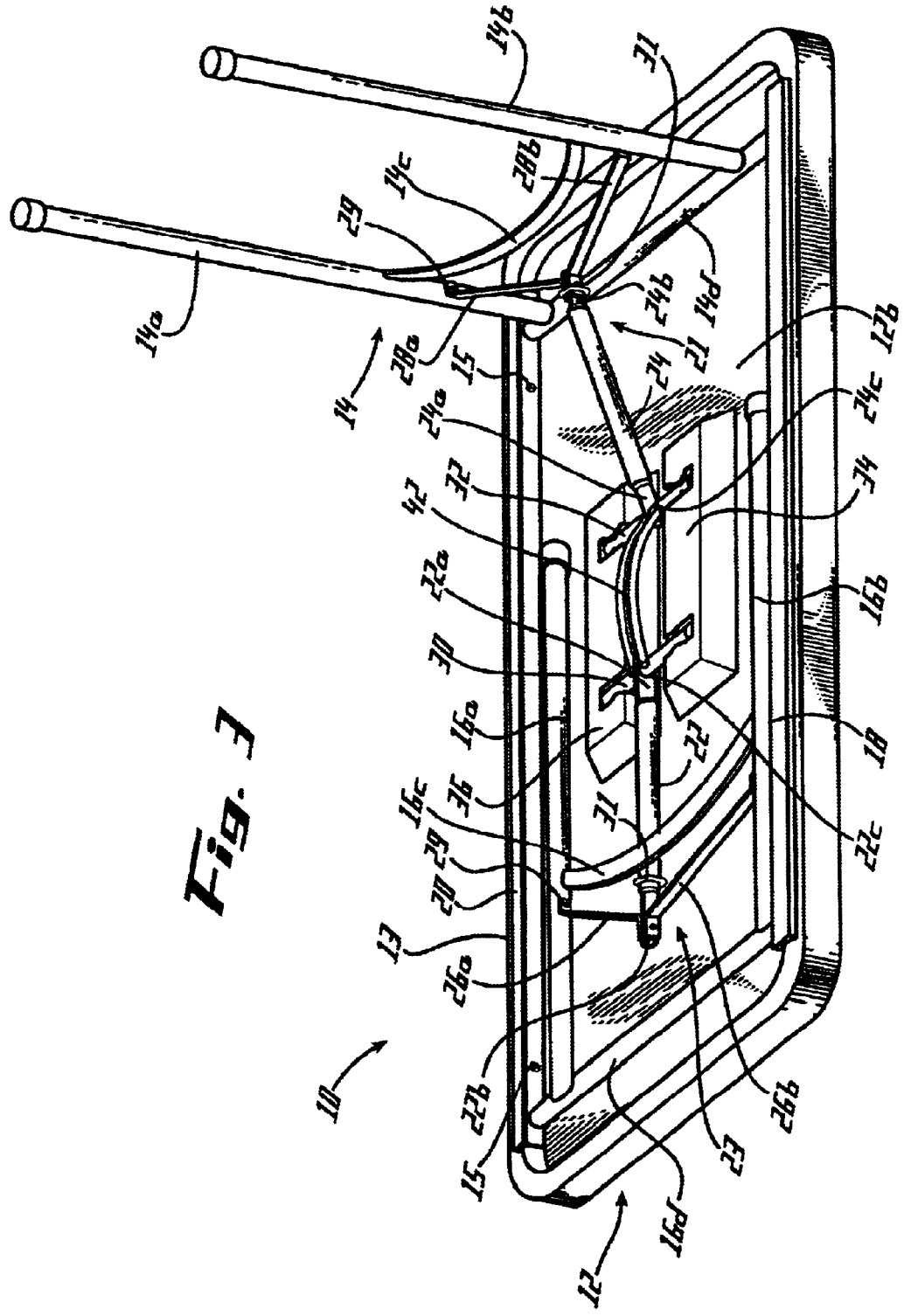
34
13a

Fig. 2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34
22a
16b
30
16a
18
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16c
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22b
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15
23
16d
12

Fig. 3

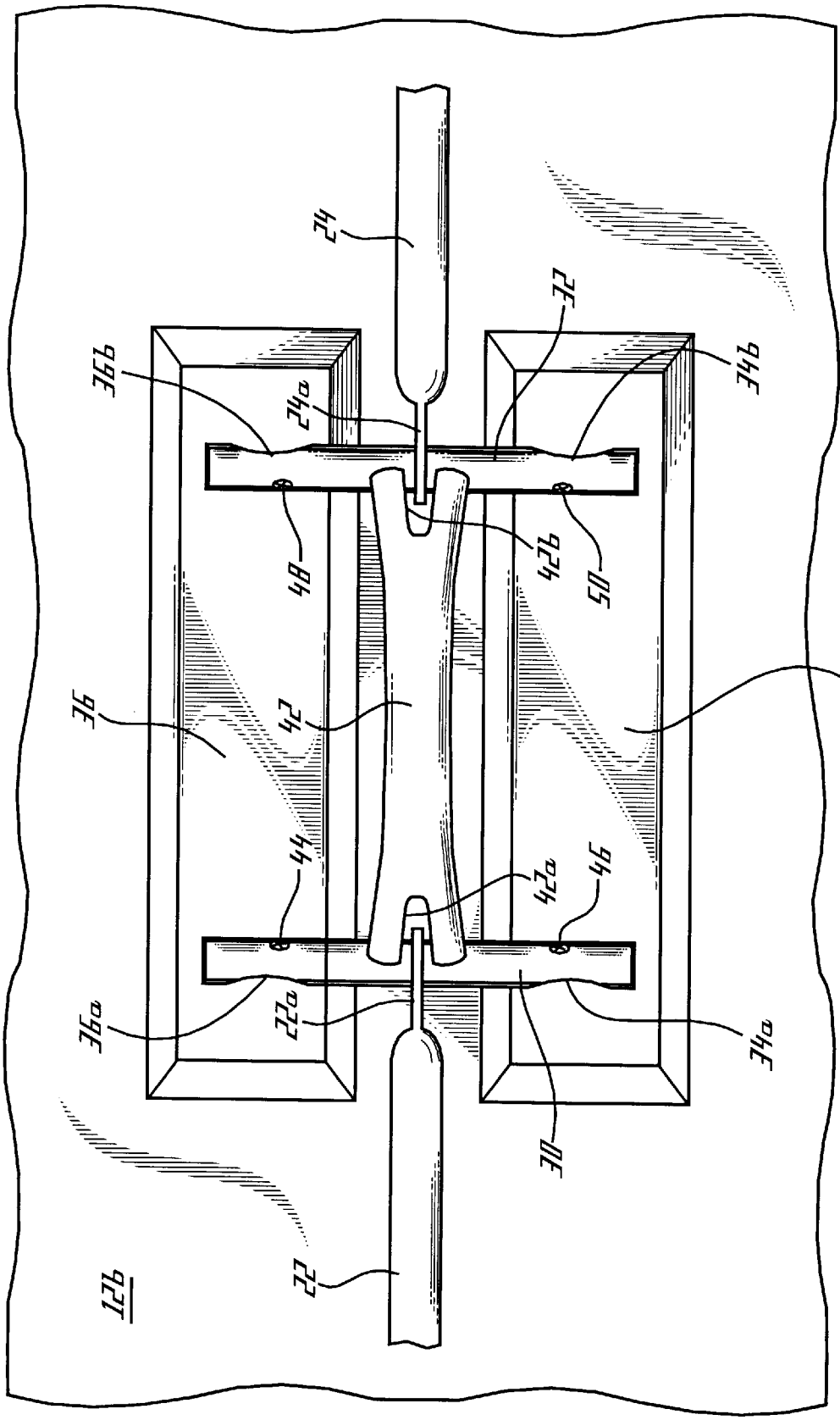



Fig. 4

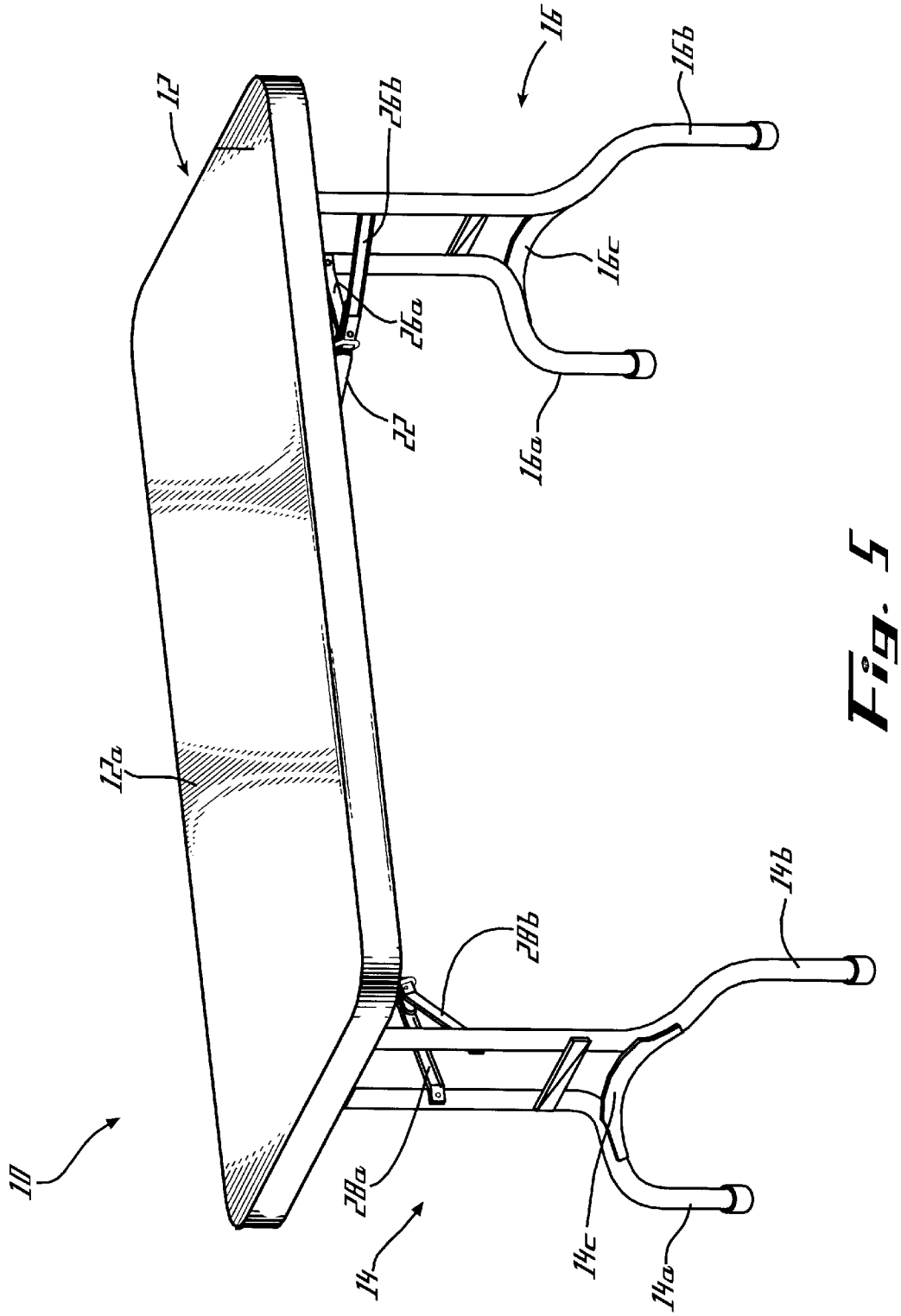
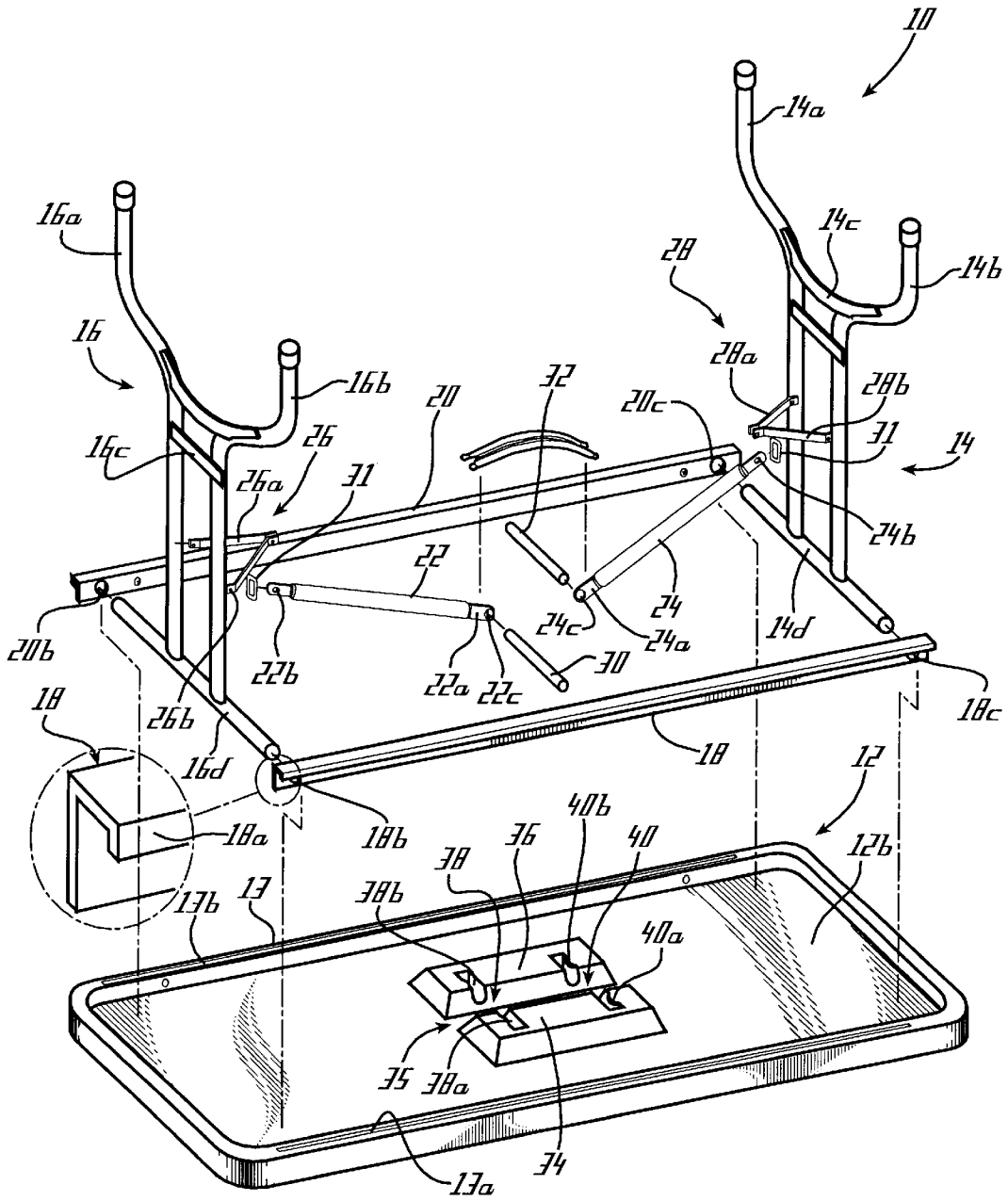



Fig. 5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28b
16b
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31
24b
22
24
24c
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14d
20b
22b
22a
22c
30
18
18c
26b
16d
18
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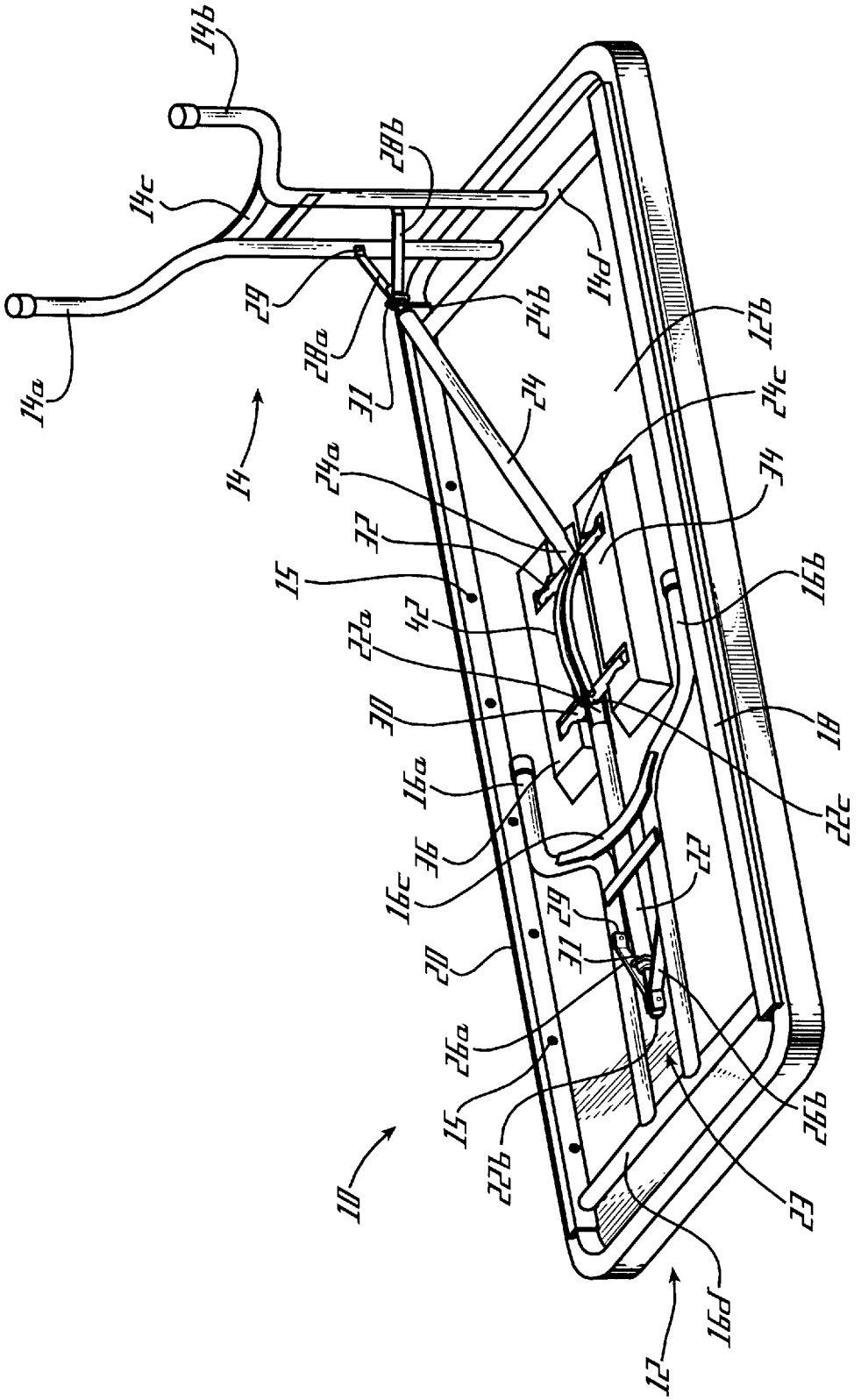
13
38b
40a
35
38a
34
13a

Fig. 6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42
22a
18
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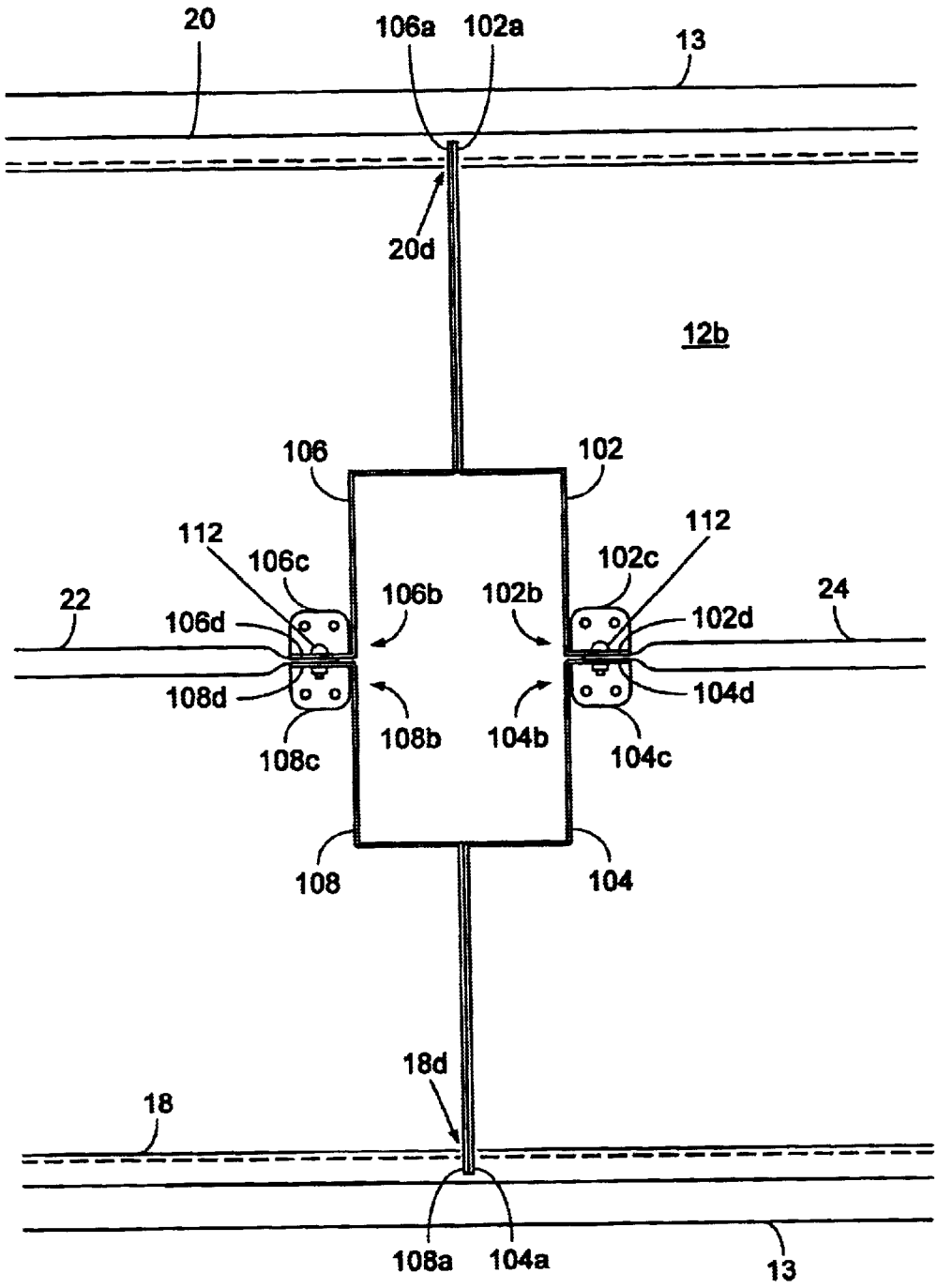
31
20
26a
15
26b
22b
23
10
16d
12

Fig. 1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102b
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108c
108b
104b
104c
108
104
18d
18
108a
104a
13

*Fig. 8*

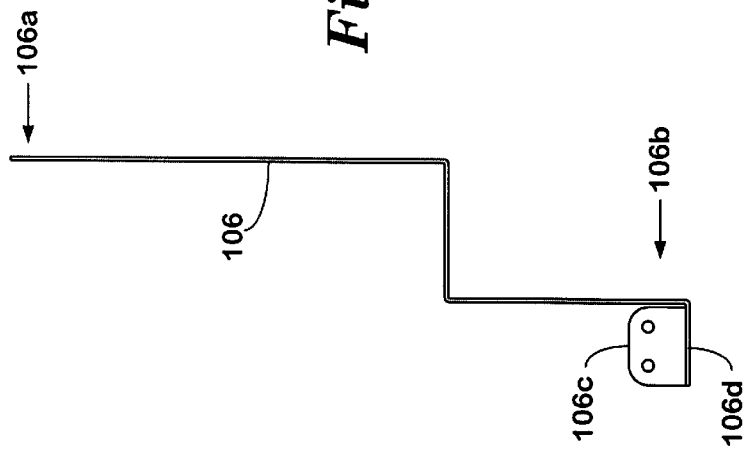


Fig. 9A

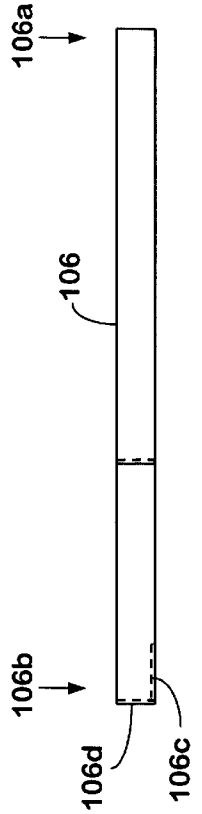


Fig. 9C

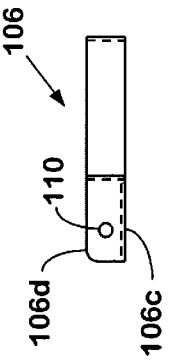


Fig. 9B

# COLLAPSIBLE TABLE

## FIELD

This invention relates to collapsible furniture. More particularly, the invention relates to a lightweight table having legs which may collapse from a use position to a storage position.

## BACKGROUND

Collapsible or foldable tables are widely used to provide temporary table space in multipurpose meeting rooms, such as banquet halls and hotel conference rooms. Collapsible tables are popular for such applications because they may be folded into a relatively flat package which provides for ease of storage between uses.

Prior collapsible table designs have been lacking for numerous reasons. Some tables, such as those having table tops made of solid wood or particle board, are extremely heavy and unwieldy, causing difficulty in transport and setup. Such heavy tables can also cause severe damage or injury if dropped during transport. Lighter-weight table designs generally employ support structures that become unstable when a significant amount of weight is placed on the table top. To overcome stability problems, some table designs employ folding support mechanisms that are complicated and costly to manufacture.

What is needed, therefore, is a folding table which is sturdy, relatively light-weight, and relatively inexpensive to manufacture.

## SUMMARY

The above and other needs are met by a collapsible table having a table top, such as may be formed by blow molding, with a substantially planar top surface and a bottom surface opposite the top surface. Formed into the bottom surface of the table top are opposing first and second channels. Disposed within the first channel is a first pivot bar, and disposed within the second channel is a second pivot bar. The table includes opposing first and second frame members secured to the bottom surface of the table top. Disposed between and pivotally attached to the first and second frame members are opposing first and second leg assemblies which are movable between a use position and a storage position. To maintain the first leg assembly in the use position, the table has a first support assembly which includes a first brace structure and a first support bar. The first brace structure has a first central pivotal attachment point, and one or more first distal pivotal attachment points attached to the first leg assembly. The first support bar has a first end which is pivotally attached to the first pivot bar and a second end which is pivotally attached to the first central pivotal attachment point of the first brace structure. To maintain the second leg assembly in the use position, the table has a second support assembly which includes a second brace structure and a second support bar. The second brace structure has a second central pivotal attachment point, and one or more second distal pivotal attachment points attached to the second leg assembly. The second support bar has a first end which is pivotally attached to the second pivot bar and a second end which is pivotally attached to the second central pivotal attachment point of the first brace structure.

In a most preferred embodiment, the first and second pivot bars comprise substantially cylindrical rods, and the first and second channels each have a channel surface with an inside diameter substantially equivalent to the outside diameter of the first and second pivot bars.

Also in preferred embodiments, the bottom surface of the table top has opposing first and second projections separated by a separation distance. The first channel preferably has a first channel portion formed in the first projection, and a second channel portion formed in the second projection opposite the first channel portion. The first pivot bar is disposed within the first and second channel portions of the first channel, and spans the separation distance between the first and second projections. The second channel preferably has a third channel portion formed in the first projection, and a fourth channel portion formed in the second projection opposite the third channel portion. The second pivot bar is disposed within the third and fourth channel portions of the second channel, and spans the separation distance between the first and second projections.

In another aspect, the invention provides a method for manufacturing a collapsible table. The method includes forming a table top having a substantially planar top surface, a bottom surface opposite the top surface, and opposing first and second channels in the bottom surface. The method includes securing opposing first and second frame members to the bottom surface of the table top, and pivotally attaching first and second leg assemblies to the first and second frame members, such that the first and second leg assemblies are movable between a use position and a storage position.

According to the preferred method, a first brace structure is provided, having a first central pivotal attachment point and at least one first distal pivotal attachment point. The first distal pivotal attachment point of the first brace structure is pivotally attached to the first leg assembly. The method includes providing a first support bar having first and second ends. The second end of the first support bar is pivotally attached to the first central pivotal attachment point of the first brace structure. The method further includes providing a first pivot bar, pivotally attaching the first end of the first support bar to the first pivot bar, and inserting the first pivot bar into the first channel in the bottom surface of the table top.

A second brace structure is provided, having a second central pivotal attachment point and at least one second distal pivotal attachment point. The second distal pivotal attachment point of the second brace structure is pivotally attached to the second leg assembly. The method includes providing a second support bar having first and second ends. The second end of the second support bar is pivotally attached to the second central pivotal attachment point of the second brace structure. The method further includes providing a second pivot bar, pivotally attaching the first end of the second support bar to the second pivot bar; and inserting the second pivot bar into the second channel in the bottom surface of the table top.

## BRIEF DESCRIPTION OF THE DRAWINGS

Further advantages of the invention are apparent by reference to the detailed description when considered in conjunction with the figures, which are not to scale so as to more clearly show the details wherein like reference numbers indicate like elements throughout the several views, and wherein:

FIG. **1** is a perspective view of the top of a collapsible table according to a preferred embodiment of the invention;

FIG. **2** is an exploded view of a collapsible table according to a preferred embodiment of the invention;

FIG. **3** is a perspective view of the bottom of a collapsible table according to a preferred embodiment of the invention;

FIG. **4** depicts a structure for pivotally attaching support bars to a bottom surface of a table top of a collapsible table according to a preferred embodiment of the invention;

FIG. **5** is a perspective view of the top of a collapsible table according to an alternative embodiment of the invention;

FIG. **6** is an exploded view of a collapsible table according to an alternative embodiment of the invention;

FIG. **7** is a perspective view of the bottom of a collapsible table according to an alternative embodiment of the invention;

FIG. **8** depicts a structure for pivotally attaching support bars to a bottom surface of a table top of a collapsible table according to an alternative embodiment of the invention; and

FIGS. **9**A–C depict orthogonal views of an attachment bar used to pivotally attach a support bar to a bottom surface of a table top of a collapsible table according to an alternative embodiment of the invention.

## DETAILED DESCRIPTION

Referring now to FIGS. **1–4**, there is generally depicted a collapsible table **10** according to a preferred embodiment of the present invention. The table **10** includes a table top section **12** having a substantially planar top surface **12***a* and an opposing bottom surface **12***b*. In the preferred embodiment, the table top **12** is formed from a thermoplastic material by a molding process, such as blow molding. This process provides a sturdy, yet lightweight table top **12** that is well suited for applications where ease of handling and transport are important. Though thermoplastic is the preferred material for the table top **12**, one skilled in the art will appreciate that the table top **12** could be formed of other materials, such as fiberglass or other composite materials, wood, or metal. Thus, the scope of the invention is not limited to any particular material or forming method for the table top **12**. In a preferred embodiment, the table top **12** is about 48 inches long and about 24 inches wide.

Although the table top **12** depicted in FIGS. **1–3** is rectangular, it should be appreciated that the structures described herein are applicable to table tops that are circular, elliptical, or any other shape. Thus, the scope of the invention is not limited to any particular shape of the table top **12**.

As depicted in FIGS. **2** and **3** the preferred embodiment of the table top **12** includes a peripheral lip **13** extending outward from the bottom surface **12***b*. Preferably, the lip **13** is formed during the molding of the table top **12**, and is thus an integral and continuous extension of the bottom surface **12***b*. Attached to the lip **13** on opposing sides of the bottom surface **12***b* are a pair of frame members **18** and **20**, also referred to herein as a first frame member **18** and a second frame member **20**. Preferably, the first and second frame members **18** and **20** are secured to the lip **13** by screws **15**. In the preferred embodiment, the frame members **18** and **20** are formed of metal, such as steel, and are generally L-shaped in cross-section. As depicted in FIG. **2**, the frame members **18** and **20** preferably include lip portions **18***a* and **20***a* which are received in channels **13***a* and **13***b* in the lip **13** when the frame members **18** and **20** are attached to the bottom surface **12***b* of the table top **12**. This interface between the lip portions **18***a–***20***a* and the channels **13***a–***13***b* tends to prevent lateral motion between the frame members **18** and **20** and the table top **12**, thereby increasing the structural rigidity of the table **10**.

As shown in FIG. **2**, adjacent each end of the first frame member **18** are substantially circular apertures **18***a* and **18***c*, and adjacent each end of the second frame member **20** are substantially circular apertures **20***b* and **20***c*. The purpose of the apertures **18***b–***18***c* and **20***b–***20***c* is described below.

As depicted in FIGS. **1–3**, the table **10** includes a pair of opposing leg assemblies **14** and **16**, also referred to herein as a first leg assembly **14** and a second leg assembly **16**. The first and second leg assemblies **14** and **16** are pivotally attached to and between the first and second frame members **18** and **20**. In the preferred embodiment, the first leg assembly **14** comprises a pair legs **14***a* and **14***b*, each attached at one end to a cross member **14***d*. The second leg assembly **16** preferably comprises a pair legs **16***a* and **16***b*, each attached at one end to a cross member **16***d*. To provide lateral support, a brace **14***c* is provided between the legs **14***a* and **14***b*, and a brace **16***c* is provided between the legs **16***a* and **16***b*. In the preferred embodiment, the legs **14***a–***14***b* and **16***a–***16***b*, the cross members **14***d* and **16***d*, and the braces **14***c* and **16***c* are formed of metal, such as steel. However, it will be appreciated that other materials could be used, such as wood or composite materials. The attachment of the legs **14***a–***14***b* and **16***a–***16***b* to the cross members **14***d* and **16***d*, and the braces **14***c* and **16***c* to the legs **14***a–***14***b* and **16***a–***16***c*, is preferably accomplished by welding.

As shown in FIGS. **2** and **3**, opposing ends of the cross member **14***d* penetrate the apertures **18***c* and **20***c* in the opposing frame members **18** and **20**. Similarly, opposing ends of the cross member **16**d penetrate the apertures **18***a* and **20***b* in the frame members **18** and **20**. The diameters of the apertures **18***b–***18***c* and **20***b–***20***c* are preferably large enough to allow free rotation of the ends of the cross members **16***d* and **14***d* therein. In this manner, the leg assemblies **14** and **16** may be rotated between a use position and a storage position. In FIG. **3**, the leg assembly **14** is depicted in the use position, and the leg assembly **16** is depicted in the storage position.

To maintain the first and second leg assemblies **14** and **16** in the use position, the table **10** includes first and second support assemblies **21** and **23**. As depicted in FIGS. **2** and **3**, the first support assembly **21** includes a first brace structure **28** and a first support bar **24**, and the second support assembly **23** includes a second brace structure **26** and a second support bar **22**. In the preferred embodiment of the invention, the first brace structure **28** comprises two opposing brackets **28***a* and **28***b*, and the second brace structure **26** comprises two opposing brackets **26***a* and **26***b*. Preferably, the bracket **28***a* is pivotally attached at one end to the leg **14***a* of the leg assembly **14** and at the other end to the second end **24***b* of the support bar **24**. The bracket **28***a* is pivotally attached at one end to the leg **14***b* and at the other end to the second end **24***b* of the support bar **24**. Similarly, the bracket **26***a* is pivotally attached at one end to the leg **16***a* of the leg assembly **16** and at the other end to the second end **22***b* of the support bar **22**. The bracket **26***b* is pivotally attached at one end to the leg **16***b* and at the other end to the second end **22***b* of the support bar **22**. The pivotal attachment of the brackets **28***a–b* and **26***a–b* to the leg assemblies **14** and **16** is preferably accomplished using bolts **29**, and pivotal attachment of the brackets **28***a–b* and **26***a–b* to the support bars **24** and **22** is preferably accomplished using bolts **27**. In the preferred embodiment, the brackets **28***a–***28***a* and **26***a–***26***b* are formed of steel bar stock. The first and second support bars **24** and **22** are preferably formed of tubular steel which has been pressed flat at the ends **24***a–***24***b* and **22***a–***22***b*. The first ends **24***a–***22***a* of the first and second support bars **24** and **22** are pivotally coupled to the bottom surface **12***b* of the table top **12** in a manner described hereinafter. As depicted in FIG. **2**, extending outward from

the bottom surface **12***b* of the table top **12** are a pair of opposing elongate projections **34** and **36**, also referred to herein as first and second projections **34** and **36**, which are separated by a gap **35**. In the preferred embodiment, the projections **34** and **36** are formed during the molding of the table top **12**, and are thus integral and continuous extensions of the material which forms the bottom surface **12***b* of the table top **12**. Within the first and second projections **34** and **36** are first and second channels **38** and **40**. Preferably, the first channel **38** includes a first channel portion **38***a* formed in the first projection **34**, and a second channel portion **38***a* formed in the second projection **36**, where the first channel portion **38***a* is aligned with the second channel portion **38**b. The second channel **40** includes a third channel portion **40***a* formed in the first projection **34**, and a fourth channel portion **40***b* formed in the second projection **36**, where the third channel portion **40***a* is aligned with the fourth channel portion **40***b*. Preferably, the channel portions **38***a–b* and **40***a–b* take the form of cylindrical grooves molded into the first and second projections **34** and **36**.

In alternative embodiments, the channels **38** and **40** are formed completely within a single projection extending from the bottom surface **12***b* of the table top **12**, or are formed directly in the bottom surface **12***b*.

As depicted in FIGS. **2**, **3**, and **4**, the preferred embodiment of the table **10** includes a pair of pivot bars **30** and **32** which are preferably formed of tubular steel. The pivot bars **30** and **32** have an outer diameter which is substantially the same as, or preferably slightly less than, the inner diameter of apertures **22***c* and **24***c* in the first ends **22***a* and **24***a* of the first and second support bars **22** and **24**. As shown in FIGS. **3** and **4**, the pivot bar **30** penetrates the aperture **22***c* in the first support bar **22**, and the pivot bar **32** penetrates the aperture **24***c* in the second support bar **24**. Thus, the first and second support bars **22** and **24** are free to pivot about the first and second pivot bars **30** and **32**, respectively, as the leg assemblies **14** and **16** rotate between the use and storage positions.

The outer diameter of the first and second pivot bars **30** and **32** is also substantially the same as, or slightly less than, the inner diameter of the first and second channels **38** and **40**. In this manner, the first pivot bar **30** may be inserted into the first and second channel portions **38***a–b* of the first channel **38**, and the second pivot bar **32** may be inserted into the third and fourth channel portions **40***a–b* of the second channel **40**. Preferably, as depicted, the channel portions **38***a–b* and **40***a–b* are blind channels, that is, they do not extend completely through the projections **34** and **36**. Thus, when the first and second pivot bars **30** and **32** are inserted into the channel portions **38***a–b* and **40***a–b*, the bars **30** and **32** are preferably captured in the axial direction, thereby preventing movement of the bars **30** and **32** in the axial direction. As shown in FIG. **4**, the projection **34** preferably includes lips **34***a–b* which partially overhang the first and third channel portions **38***a* and **40***a*, respectively. Similarly, the projection **36** preferably includes lips **36***a–b* which partially overhang the second and fourth channel portions **38***a* and **40***b*, respectively. The lips **34***a–b* and **36***a–b* serve to capture the pivot bars **30** and **32** so that they snap into place when inserted into the channel portions **38***a–b* and **40***a–b*. As shown in FIGS. **3** and **4**, the pivot bars **30** and **32** are preferably secured in the channel portions **38***a–b* and **40***a–b* by fasteners, such as screws **44**, **46**, **48**, and **50**.

As depicted in FIG. **3**, the pivotal motion of the first ends of the support bars **22** and **24** with respect to the pivot bars **30** and **32**, and the pivotal motion of the brace structures **26** and **28** with respect to the support bars **22** and **24** and the leg assemblies **14** and **16**, allows these structures to fold down substantially parallel to the table top **12**. The gap **35** between the first and second projections **34** and **36** provides a space to accommodate the support bars **22** and **24** when the leg assemblies **14** and **16** are folded down into the storage position.

With reference to FIG. **3**, the preferred embodiment of the invention includes lock rings **31**, each having sufficient inner diameter to slide down over the second ends of the support bars **22***b* and **24***b* and over the attached ends of the brace structures **28** and **26** when the leg assemblies **14** and **16** are in the use position. The lock rings **31** serve to prevent the brace structures **26** and **28** from pivoting in relation to the support bars **22** and **24** when in the use position, thereby preventing an inadvertent collapse of the table **10**.

As shown in FIG. **4**, the preferred embodiment of the invention includes a handle **42** secured between and perpendicular to the pivot bars **30** and **32**. In the preferred embodiment, the handle **42** is formed of tubular steel, and is secured at each end to the pivot bars **30** and **32** by welding. However, one skilled in the art will appreciate that the handle **42** could be attached to the pivot bars **30** and **32** by other means, such as using screws or other fasteners. Preferably, the handle has notches **42***a* and **42***b* at each end which straddle the ends **22***a* and **24***a* of the support bars **22** and **24**. In this manner, the ends **22***a* and **24***a* of the support bars **22** and **24** are captured within the notches **42***a* and **42***b* to prevent lateral movement of the support bars **22** and **24** with respect to the pivot bars **30** and **32**.

An alternative embodiment of the table **10** is depicted in FIGS. **5–7**. Except for the shape of the leg assemblies **14** and **16**, the structure of this embodiment is substantially the same as the structure of the first embodiment described above. The embodiment of FIGS. **5–7** is particularly well suited for a table having a higher length-to-width ratio, such as a banquet table. For example, the table top **12** depicted in FIGS. **5–7** is preferably about **72** inches long and about **30** inches wide.

Depicted in FIGS. **8** and **9**A–C is a structure for pivotally attaching the first and second support bars **22** and **24** to the bottom surface **12***b* according to an alternative embodiment of the invention. This embodiment includes four attachment brackets **102**, **104**, **106**, and **108** attached to the bottom surface **12***b* and to the frame members **18** and **20**.

As shown in FIG. **8**, two of the brackets **102** and **106** span one half of the bottom surface **12***b*, and the other two brackets **104** and **108** span the other half of the bottom surface **12***b*. Distal ends **102***a* and **106***a* of the brackets **102** and **106** penetrate a slot **20***d* in the frame member **20**, and distal ends **104***a* and **108***a* of the brackets **104** and **108** penetrate a slot **18***d* in the opposing frame member **18**. Proximate ends **102***b*, **104***b*, **106***b*, and **108***a* of the brackets **102**, **10 104**, **106**, and **108** are secured to the bottom surface **12***b*, preferably using fasteners such as screws which pass through holes in attachment tabs **102***c*, **104***c*, **106***c*, and **108***c* and into the material of the bottom surface **12***b*.

FIGS. **9**A, **9**B, and **9**C depict three orthogonal views of the attachment bracket **106**. One skilled in the art will appreciate that the bracket **102** is a horizontal mirror image of the bracket **106**, and the brackets **108** and **104** are vertical mirror images of the brackets **106** and **102**, respectively. As shown in FIGS. **9**A, **9**B, and **9**C, the bracket **106** has a pivot tab **106***d* with a through-hole **110** therein. When the brackets **106** and **108** are attached to the bottom surface **12***b*, the hole **110** in the pivot tab **106***d* is aligned with an opposing hole in the pivot tab **108***d* of the bracket **108**. Similarly, when the

brackets **102** and **104** are attached to the bottom surface **12***b*, a hole in the pivot tab **102***d* is aligned with an opposing hole in the pivot tab **104***d* of the bracket **104**. The first end **22***a* of the support bar **22** is disposed between the pivot tabs **106***d* and **108***d*, with the aperture **22***c* (FIG. **2**) aligned with the holes **110** in the pivot tabs **106***d* and **108***d*. The first end **24***a* of the support bar **24** is disposed between the pivot tabs **102***d* and **104***d*, with the aperture **24***c* (FIG. **2**) aligned with the holes **110** in the pivot tabs **102***d* and **104***d*. Fasteners **112**, such as bolts, penetrate the holes **110** in the pivot tabs **106***d* and **108***d* and the aperture **22***c* to pivotally attach the support bar **22** to the brackets. Similarly, fasteners **112** penetrate the holes **110** in the pivot tabs **102***d* and **104***d* and the aperture **24***c* to pivotally attach the support bar **22** to the brackets **102** and **104**. Thus, as the leg assemblies **14** and **16** (FIG. **3**) are moved between the use position and the storage position, the support bars **22** and **24** pivot about the fasteners **112**.

Although it has been determined that brackets **102**, **104**, **106**, **108** having the shapes as depicted in FIG. **8** provide a structurally secure means of attachment, it should be appreciated that the brackets **102**, **104**, **106**, **108** could have other shapes. For example, instead of providing three alternating 90-degree bends as depicted in FIG. **9**A, the brackets **102**, **104**, **106**, **108** could be provided with two bends of 135 degrees, while leaving the ends of the brackets at the same relative positions. In that example, the brackets **102**, **104**, **106**, **108** would come together in a substantially diamond-shaped arrangement, rather than the rectangular arrangement depicted in FIG. **8**. Thus, the scope of the invention is not limited to any particular shape of the attachment brackets **102**, **104**, **106**, and **108**.

The foregoing description of preferred embodiments for this invention have been presented for purposes of illustration and description. They are not intended to be exhaustive or to limit the invention to the precise form disclosed. Obvious modifications or variations are possible in light of the above teachings. The embodiments are chosen and described in an effort to provide the best illustrations of the principles of the invention and its practical application, and to thereby enable one of ordinary skill in the art to utilize the invention in various embodiments and with various modifications as is suited to the particular use contemplated. All such modifications and variations are within the scope of the invention as determined by the appended claims when interpreted in accordance with the breadth to which they are fairly, legally, and equitably entitled.

What is claimed is:

**1**. A collapsible table comprising:

a table top having:

a substantially planar top surface;

a bottom surface opposite the top surface; and

opposing first and second channels formed into the bottom surface;

a first pivot bar disposed within the first channel;

a second pivot bar disposed within the second channel;

opposing first and second frame members secured to the bottom surface of the table top;

opposing first and second leg assemblies disposed between and pivotally attached to the first and second frame members, the first and second leg assemblies movable between a use position and a storage position;

a first support assembly for maintaining the first leg assembly in the use position, the first support assembly comprising:

a first brace structure having a first central pivotal attachment point and at least one first distal pivotal attachment point, the at least one first distal pivotal attachment point pivotally attached to the first leg assembly; and

a first support bar having first and second ends, the second end of the first support bar pivotally attached to the first central pivotal attachment point of the first brace structure, and the first end of the first support bar pivotally attached to the first pivot bar; and

a second support assembly for maintaining the second leg assembly in the use position, the second support assembly comprising:

a second brace structure having a second central pivotal attachment point and at least one second distal pivotal attachment point, the at least one second distal pivotal attachment point pivotally attached to the second leg assembly; and

a second support bar having first and second ends, the second end of the second support bar pivotally attached to the second central pivotal attachment point of the second brace structure, and the first end of the second support bar pivotally attached to the second pivot bar.

**2**. The collapsible table of claim **1** further comprising:

the first and second pivot bars comprising substantially cylindrical rods, each having an outside diameter; and

the first and second channels each having a channel surface with an inside diameter substantially equivalent to the outside diameter of the first and second pivot bars.

**3**. The collapsible table of claim **2** further comprising:

the first pivot bar secured in the first channel by at least one screw passing through the first pivot bar and into the inner surface of the first channel; and

the second pivot bar secured in the second channel by at least one screw passing through the second pivot bar and into the inner surface of the second channel.

**4**. The collapsible table of claim **1** further comprising:

the bottom surface of the table top further having opposing first and second projections separated by a separation distance;

the first channel further having a first channel portion formed in the first projection, and a second channel portion formed in the second projection opposite the first channel portion; and

the first pivot bar disposed within the first and second channel portions of the first channel, and spanning the separation distance between the first and second projections.

**5**. The collapsible table of claim **4** further comprising:

the second channel having a third channel portion formed in the first projection, and a fourth channel portion formed in the second projection opposite the third channel portion; and

the second pivot bar disposed within the third and fourth channel portions of the second channel, and spanning the separation distance between the first and second projections.

**6**. The collapsible table of claim **1** further comprising:

the first end of the first support bar having a first aperture with a first diameter sufficient to receive the first pivot bar;

the first pivot bar penetrating the first aperture in the first support bar;

the first end of the second support bar having a second aperture with a second diameter sufficient to receive the second pivot bar; and

the second pivot bar penetrating the second aperture in the second support bar.

**7**. The collapsible table of claim **1** further comprising:

the first pivot bar disposed substantially in parallel with the second pivot bar, and separated from the second pivot bar by a separation distance; and

a handle member having a first handle end secured to the first pivot bar and a second handle end secured to the second pivot bar, the handle member disposed substantially perpendicular to the first and second pivot bars and spanning the separation distance between the first and second pivot bars.

**8**. The collapsible table of claim **7** further comprising:

the first handle end of the handle member having a first notch straddling the first end of the first support bar; and

the second handle end of the handle member having a second notch straddling the first end of the second support bar.

**9**. The collapsible table of claim **1** wherein the table top further comprises a blow-molded thermoplastic material.

**10**. A collapsible table comprising:

a molded table top having:

a substantially planar top surface;

a bottom surface opposite the top surface, the bottom surface having opposing first and second molded projections separated by a separation distance;

a first channel comprising a first channel portion formed in the first molded projection, and a second channel portion formed in the second molded projection opposite the first channel portion, the first and second channel portions having a first inside diameter;

a second channel comprising a third channel portion formed in the first molded projection, and a fourth channel portion formed in the second molded projection opposite the third channel portion, the third and fourth channels having a second inside diameter;

a first pivot bar disposed within the first and second channel portions of the first channel and spanning the separation distance between the first and second projections, the first pivot bar comprising a substantially cylindrical rod having a first outside diameter that is substantially equivalent to the first inside diameter of the first and second channel portions;

a second pivot bar disposed within the third and fourth channel portions of the second channel and spanning the separation distance between the first and second projections, the second pivot bar comprising a substantially cylindrical rod having a second outside diameter that is substantially equivalent to the second inside diameter of the third and fourth channel portions;

opposing first and second frame members secured to the bottom surface of the table top;

opposing first and second leg assemblies disposed between and pivotally attached to the first and second frame members, the first and second leg assemblies movable between a use position and a storage position;

a first support assembly for maintaining the first leg assembly in the use position, the first support assembly comprising:

a first brace structure having a first central pivotal attachment point and at least one first distal pivotal attachment point, the at least one first distal pivotal attachment point pivotally attached to the first leg assembly; and

a first support bar having first and second ends, the second end of the first support bar pivotally attached to the first central pivotal attachment point of the first brace structure, and the first end of the first support bar pivotally attached to the first pivot bar; and

a second support assembly for maintaining the second leg assembly in the use position, the second support assembly comprising:

a second brace structure having a second central pivotal attachment point and at least one second distal pivotal attachment point, the at least one second distal pivotal attachment point pivotally attached to the second leg assembly; and

a second support bar having first and second ends, the second end of the second support bar pivotally attached to the second central pivotal attachment point of the second brace structure, and the first end of the second support bar pivotally attached to the second pivot bar.

**11**. The collapsible table of claim **10** further comprising:

the first end of the first support bar having a first aperture with a first diameter sufficient to receive the first pivot bar;

the first pivot bar penetrating the first aperture in the first support bar;

the first end of the second support bar having a second aperture with a second diameter sufficient to receive the second pivot bar; and

the second pivot bar penetrating the second aperture in the second support bar.

**12**. The collapsible table of claim **10** further comprising:

the first pivot bar disposed substantially in parallel with the second pivot bar, and separated from the second pivot bar by a separation distance; and

a handle member having a first handle end secured to the first pivot bar and a second handle end secured to the second pivot bar, the handle member disposed substantially perpendicular to the first and second pivot bars and spanning the separation distance between the first and second pivot bars.

**13**. The collapsible table of claim **12** further comprising:

the first handle end of the handle member having a first notch straddling the second end of the first support bar; and

the second handle end of the handle member having a second notch straddling the second end of the second support bar.

**14**. In a collapsible table of a type having

a molded table top with a substantially planar top surface and a bottom surface opposite the top surface,

opposing first and second frame members secured to the bottom surface of the table top,

opposing first and second leg assemblies disposed between and pivotally attached to the first and second frame members, where the first and second leg assemblies are movable between a use position and a storage position,

a first support assembly for maintaining the first leg assembly in the use position, where the first support assembly includes

a first brace structure having a first central pivotal attachment point and a first distal pivotal attachment point, where the first distal pivotal attachment point is pivotally attached to the first leg assembly, and

a first support bar having first and second ends, where the second end of the first support bar is pivotally

attached to the first central pivotal attachment point of the first brace structure, and

a second support assembly for maintaining the second leg assembly in the use position, where the second support assembly includes

a second brace structure having a second central pivotal attachment point and a second distal pivotal attachment point, where the second distal pivotal attachment point is pivotally attached to the second leg assembly, and

a second support bar having first and second ends, where the second end of the second support bar is pivotally attached to the second central pivotal attachment point of the second brace structure,

an improvement comprising:

opposing first and second channels molded into the bottom surface of the table top;

a first pivot bar disposed within the first channel;

the second end of the first support bar pivotally attached to the first pivot bar;

a second pivot bar disposed within the second channel; and

the second end of the second support bar pivotally attached to the second pivot bar.

**15**. The improvement of claim **14** wherein:

the first and second pivot bars comprise substantially cylindrical rods, each having an outside diameter; and

the first and second channels each have a channel surface with an inside diameter substantially equivalent to the outside diameter of the first and second pivot bars.

**16**. The improvement of claim **15** wherein:

the first pivot bar is secured in the first channel by at least one screw passing through the first pivot bar and into the inner surface of the first channel; and

the second pivot bar is secured in the second channel by at least one screw passing through the second pivot bar and into the inner surface of the second channel.

**17**. The improvement of claim **14** further comprising:

opposing first and second molded projections in the bottom surface of the table top, the first and second molded projections separated by a separation distance;

the first channel having a first channel portion formed in the first projection, and a second channel portion formed in the second projection opposite the first channel portion; and

the first pivot bar disposed within the first and second channel portions of the first channel, and spanning the separation distance between the first and second projections.

**18**. The improvement of claim **17** further comprising:

the second channel having a third channel portion formed in the first projection, and a fourth channel portion formed in the second projection opposite the third channel portion; and

the second pivot bar disposed within the third and fourth channel portions of the second channel, and spanning the separation distance between the first and second projections.

**19**. The improvement of claim **14** further comprising:

the first pivot bar disposed substantially in parallel with the second pivot bar, and separated from the second pivot bar by a separation distance; and

a handle member having a first handle end secured to the first pivot bar and a second handle end secured to the second pivot bar, the handle member disposed substantially perpendicular to the first and second pivot bars and spanning the separation distance between the first and second pivot bars.

**20**. The improvement of claim **19** further comprising:

the first handle end of the handle member having a first notch straddling the first end of the first support bar; and

the second handle end of the handle member having a second notch straddling the first end of the second support bar.

**21**. A collapsible table comprising:

a table top having:

a substantially planar top surface;

a bottom surface opposite the top surface;

opposing first and second frame members secured to the bottom surface of the table top, the first frame member having a first central slot, and the second frame member having a second central slot;

a first attachment bracket having a first distal end penetrating the first central slot of the first frame member and a first proximal end secured to the bottom surface of the table top;

a second attachment bracket having a second distal end penetrating the second central slot of the second frame member and a second proximal end secured to the bottom surface of the table top adjacent the first proximal end of the first attachment bracket;

a third attachment bracket having a third distal end penetrating the first central slot of the first frame member and a third proximal end secured to the bottom surface of the table top;

a fourth attachment bracket having a fourth distal end penetrating the second central slot of the second frame member and a fourth proximal end secured to the bottom surface of the table top adjacent the third proximal end of the third attachment bracket;

opposing first and second leg assemblies disposed between and pivotally attached to the first and second frame members, the first and second leg assemblies movable between a use position and a storage position;

a first support assembly for maintaining the first leg assembly in the use position, the first support assembly comprising:

a first brace structure having a first central pivotal attachment point and at least one first distal pivotal attachment point, the at least one first distal pivotal attachment point pivotally attached to the first leg assembly; and

a first support bar having first and second ends, the second end of the first support bar pivotally attached to the first central pivotal attachment point of the first brace structure, and the first end of the first support bar disposed between and pivotally coupled to the first proximal end of the first attachment bracket and the second proximal end of the second attachment bracket; and

a second support assembly for maintaining the second leg assembly in the use position, the second support assembly comprising:

a second brace structure having a second central pivotal attachment point and at least one second distal pivotal attachment point, the at least one second distal pivotal attachment point pivotally attached to the second leg assembly; and

a second support bar having first and second ends, the second end of the second support bar pivotally

attached to the second central pivotal attachment point of the second brace structure, and the first end of the second support bar disposed between and pivotally coupled to the third proximal end of the third attachment bracket and the fourth proximal end of the fourth attachment bracket.

**22**. A method for manufacturing a collapsible table comprising the steps of:

(a) forming a table top having a substantially planar top surface, a bottom surface opposite the top surface, and opposing first and second channels in the bottom surface;

(b) securing opposing first and second frame members to the bottom surface of the table top;

(c) pivotally attaching first and second leg assemblies to the first and second frame members, such that the first and second leg assemblies are movable between a use position and a storage position;

(d) providing a first brace structure having a first central pivotal attachment point and at least one first distal pivotal attachment point;

(e) pivotally attaching the first distal pivotal attachment point of the first brace structure to the first leg assembly;

(f) providing a first support bar having first and second ends;

(g) pivotally attaching the second end of the first support bar to the first central pivotal attachment point of the first brace structure;

(h) providing a first pivot bar;

(i) pivotally attaching the first end of the first support bar to the first pivot bar;

(j) inserting the first pivot bar into the first channel in the bottom surface of the table top;

(k) providing a second brace structure having a second central pivotal attachment point and at least one second distal pivotal attachment point;

(l) pivotally attaching the second distal pivotal attachment point of the second brace structure to the second leg assembly;

(m) providing a second support bar having first and second ends;

(n) pivotally attaching the second end of the second support bar to the second central pivotal attachment point of the second brace structure;

(o) providing a second pivot bar;

(p) pivotally attaching the first end of the second support bar to the second pivot bar; and

(q) inserting the second pivot bar into the second channel in the bottom surface of the table top.

**23**. The method of claim **22** further comprising:

(r) securing the first pivot bar in the first channel by passing at least one screw through the first pivot bar and into an inner surface of the first channel; and

(s) securing the second pivot bar in the second channel by passing at least one screw through the second pivot bar and into an inner surface of the second channel.

**24**. The method of claim **22** wherein:

step (f) further comprises providing the first support bar having a first aperture in the first end, where the first aperture has a first diameter sufficient to receive the first pivot bar;

step (i) further comprises inserting the first pivot bar through the first aperture in the first support bar;

step (m) further comprises providing the second support bar having a second aperture in the first end, where the second aperture has a second diameter sufficient to receive the second pivot bar; and

step (p) further comprises inserting the second pivot bar through the second aperture in the second support bar.

**25**. The method of claim **22** further comprising:

(r) providing a handle member having a first handle end and a second handle end;

(s) securing the first handle end to the first pivot bar; and

(t) securing the second handle end to the second pivot bar.

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